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To: Microsoft ATR
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Subject: Microsoft Settlement

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As provided for by the Tunney Act, I wish to add to the public record my comments on the Proposed Final Judgment (PFJ) in the cases of US v Microsoft and State of New York ex. rel. v Microsoft.

As an Economist by training (undergraduate and graduate degrees in economics from Carnegie Mellon University and Columbia University respectively) and an IT professional by career choice, It is clear to me that the provisions supplied by the PFJ will not be sufficient to undo the existing distortions in the market for Intel-compatible operating systems and software, not will they spur the competition necessary to induce the market to reverse the distortions itself. Furthermore, the lack of substantive financial penalties undermines the deterrent effect of future anti-trust action in the future against Microsoft or other companies. Therefore, I urge the court to reject the PFJ as not being in the public's best interest.

The key to Microsoft's market power lies in the fact that it has two interlocking monopolies. First is its monopoly in the market for Intel-compatible operating systems. Second is its monopoly in the market for Office-Productivity Applications. Either of these alone represent substantial distortions in the marketplace. Together, they represent an almost irresistible force for the 'lock-in' of consumers. Given that a large measure of the value in Information Technology comes from the positive network externalities of being able to communicate with other computer users. This communication is only feasible when the disparate systems understand the same "language" in addition to being able to just contact each other. The PFJ ignores that fact that while the TCP/IP protocol and the Internet have made it easy for heterogeneous computer systems to contact each other, there are still substantial barriers to the exchange of content-rich communications due to proprietary file formats. Thus, while it is easy for two users of Microsoft Windows and Office to exchange richly-formatted documents, They are unable to have the same sort of exchange with a user of another system due to the closed nature of Microsoft's file format. It is this network effect that provides the power in Microsoft's interlocking monopoly. In order to exchange documents with the majority of other users in the network, one must use Microsoft Office. Because Microsoft Office only runs on

Microsoft Windows on Intel-compatible machines (a version is available for machines using Motorola's PowerPC architecture running MacOS), then the user must use Windows as well. Thus, each monopoly supports the other by forcing a user to adopt both in order to receive the benefit of the network effect.

This problem can and should be addressed by two means: enabling file format compatibility and enabling API compatibility. The PFJ does not address the former and ineffectively addresses the latter. By requiring that Microsoft fully and openly document, in a timely fashion, the file structure used by Microsoft Office applications, competitors could create filters in their applications to read and write Microsoft formats effortlessly. Not only would this spur competition in the Office Productivity application market under Microsoft Windows, but this would allow application developers using other Intel-compatible operating systems to create Office Productivity applications on their respective platforms that could inter-operate with Microsoft Office. Having Microsoft Office-compatible applications would give other operating systems the power to compete with Microsoft Windows in terms of providing positive network effects to its users, thus enhancing competition in the Intel-compatible operating system market. Barring the above solution, competition in the operating system market could be enhanced by ensuring that Microsoft Office is available for multiple Intel-compatible operating systems either by requiring that Microsoft produce the suite for additional platforms, or by requiring that they auction off or license the rights to "port" Microsoft Office to other platforms. Such a move is less desirable than the compatibility route because, while it enhances competition in the Operating System market, it leaves the market for Office productivity applications untouched and still monopolized.

The issue of API compatibility is addressed by the PFJ by requiring Microsoft to disclose its APIs to interested parties with a number of provisos. It is these conditions that make the disclosure of Microsoft's APIs unlikely to have a significant effect on enhancing competition. First, Microsoft will be allowed to withhold the disclosure to APIs where such disclosures would "compromise the security of a particular installation or group of installations of anti-piracy, anti-virus, software licensing, digital rights management, encryption or authentication systems, including without limitation, keys, authorization tokens or enforcement criteria" (section 3.J.1). The language in the PFJ is broad enough that Microsoft would be able to shoehorn large portions of the Windows API into the exemption, thus subverting the spirit of the measure. In addition, while the goal of ensuring the security of computer software is laudable, many information security experts agree the open disclosure of security-related APIs generally results in more secure and robust software than does the procedure of "security through obscurity". Microsoft would also be allowed to limit to whom they disclose their APIs based on whether the

requester meets "reasonable, objective standards established by Microsoft for certifying the authenticity and viability of its business" (section 3.J.2). By allowing Microsoft to choose its competitors based on business model, the PFJ undermines the ability of open-source software developers, the one group that presents a significant competitive challenge to Microsoft, to create software that is competitive but inter-operable with Microsoft products. Such developers are generally either individuals or small groups who are developing such products to suit their own needs, but, in the process of openly releasing their code, provide value to all users. These developers rarely create such software for commercial purposes and those that do tend not to be large operations that would pass Microsoft's scrutiny. To allow Microsoft to exclude such developers based on the fact that they are not producing software as a business would represent a great loss to the ability to enhance competition in the market.

Finally, the lack of financial penalties in the PFJ allows Microsoft to keep all of the "ill-gotten gains" of its monopoly position. While it is vitally important to correct market distortions and restore competition going forward, Microsoft should not be allowed to benefit from the past and its illegal monopoly. An approach similar to environmental regulations, where polluters bear the costs of remediating the environment they spoiled, could be employed here. By using monetary fines from Microsoft to create a development fund, the government, or other trustee, could help fund projects that would create freely-available software that would compete and inter-operate with Microsoft products, while forcing Microsoft, in effect, to remediate the business environment that it spoiled. Such a move would not only bring competition into the market, but would provide a large return to society as whole in the availability of high-quality, free software to help in reducing the digital divide.

In summary, the PFJ does not represent a viable means of remedying the illegal actions of Microsoft as determined by Judge Jackson and as unanimously approved by the full Court of Appeals. Based on this, I once again urge the court to reject the PFJ and quickly proceed to a new remedy hearing.

Sincerely,
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